

Texas Agencies Partner to Control Erosion with Compost

Scott McCoy

President KSS Consulting Austin Texas





The need for a better tool ...

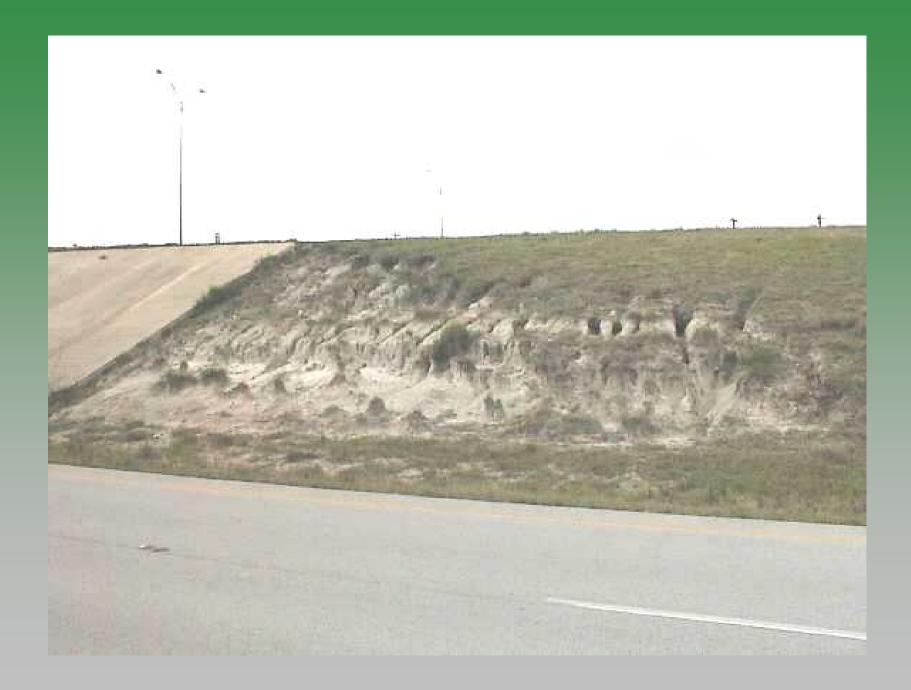
Why Does TxDOT Want to Use Compost?

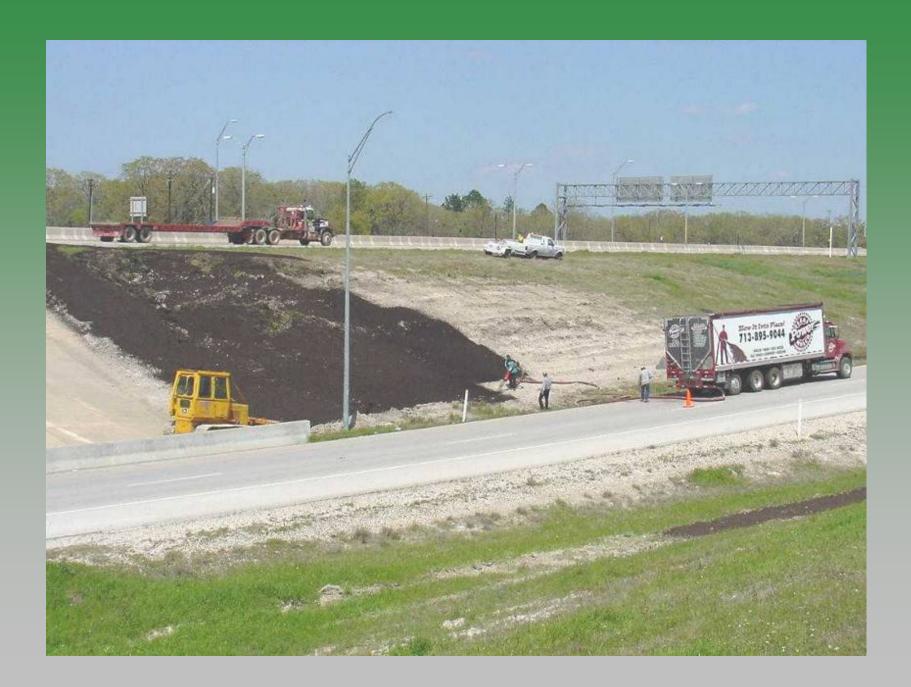
- Poor quality topsoil is the major reason that vegetation fails to establish on roadway construction projects.
- By amending poor quality topsoils with compost, short term and long term erosion is avoided.

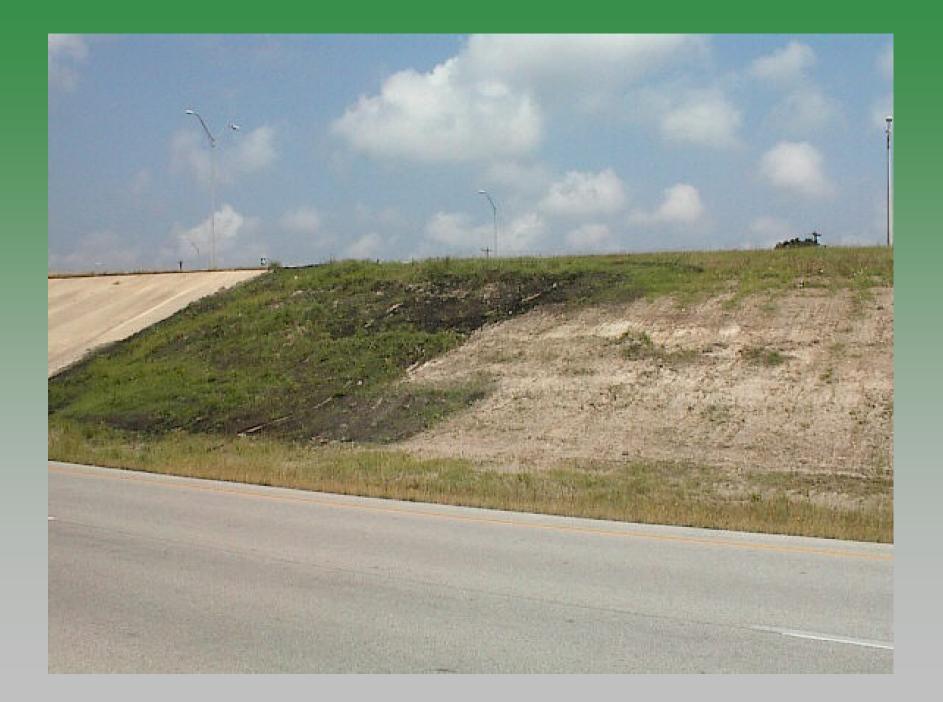
Compost Helps to Re-establish Vegetation

- Returns organic matter to the soil
- Adds moisture to the seedbed
- Changes the structure of the soil



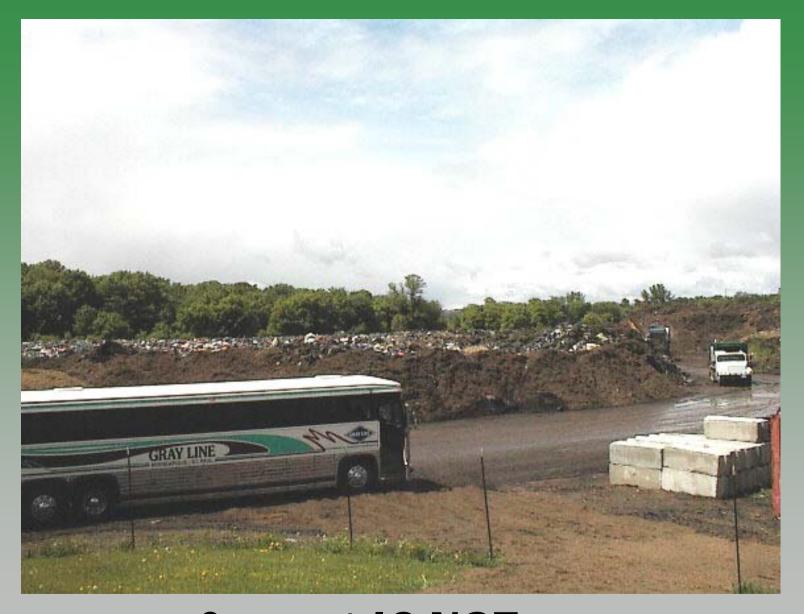






Acceptable Feedstocks for Compost

- leaves and yard trimmings
- food scraps
- food processing residues
- manure
- Class A biosolids



Compost **IS NOT:** raw sewage sludge or manure



Compost **IS:** a pasteurized, pathogen free, organic soil amendment



Composter Sample Report Address Texarkana TX 75504-2008

Product Identification:

Compost

Date Sampled/Received: 04 Nov. 02 / 05 Nov. 02 | Dristribution Pile D-22

COMPOST TECHNICAL DATA SHEET for Texas DOT

Compost Parameters	Hangar Way; Watsonville, CA Test Results	Reported as (units of measure) TMECC Test	
Composi I diameters	T to Atomio	inspirien as (anni sy incasary)	Method
Organic Matter Content	45.8	%, dry weight basis	05.07-A Loss-on-Ignition Organic Matter Method (LOI)
pH	6.28	Unitless	04.11-A 1:5 Slurry pH
Soluble Salts (electrical conductivity)	2.98	dS/m (mmbos/cm)	04.10-A 1:5 Slurry Method Mass Basis
Particle Size	97.0 94.9	%, dry weight passing through 5/8th inch screen and 3/8th inch screen	02.02-B Sample Sieving for Aggregate Size Classification
Stability Indicator (respirometry) CO2 Evolution	0.43	mg CO2-C/g OM/day	05.08-B Carbon Dioxide Evoultion Rate
Maturity Indicator (bioassay) Percent Emergence	100	average % of control	05.05-A Germination and vigo Evolution rate
Relative Seedling Vigor	100	average % of control	05.05-A Germination and vigo
Select Pathogens (Fecal Cliform)	Pass	PASS/FAIL: Per US EPA Class A standard, 40 CFR 503.32(a)	07,01-B Fecal coliforms
Trace Metals	Pass	PASS/FAIL: Per US EPA Class A 40 CFR 503.13, tables 1 and 3.	04.06-Heavy Metals standard, and Hazardous Elements

Item 161: Compost

- Erosion Control Compost
- General Use Compost
- Compost Manufactured Topsoil

Item 161: Compost Compost Manufactured Topsoil (CMT)

- Blended On-Site (BOS)
- Blended In-Place (BIP)
- Pre-blended (PB)

Item 161: Compost Compost Manufactured Topsoil (CMT)

Blended On-site (BOS)

"Topsoil may be salvaged from excavation and embankment areas. Apply CMT to the depth shown and incorporate into topsoil."



Item 161: Compost Compost Manufactured Topsoil (CMT)

Blended In-Place (BIP)

"Apply compost in a uniform layer and incorporate into the existing in place topsoil to the depth shown on the plans."





Item 161 Compost Erosion Control Compost (ECC)

"After excavation and embankment work is complete, apply a 2" uniform layer."







Item 161: Compost General Use Compost (GUC)

"Apply in a uniform layer as a top dressing on established vegetation to the depth shown on the plans. If using GUC as a backfill ingredient in a planting soil mixture, apply as shown on the plans."





Getting the word out ...

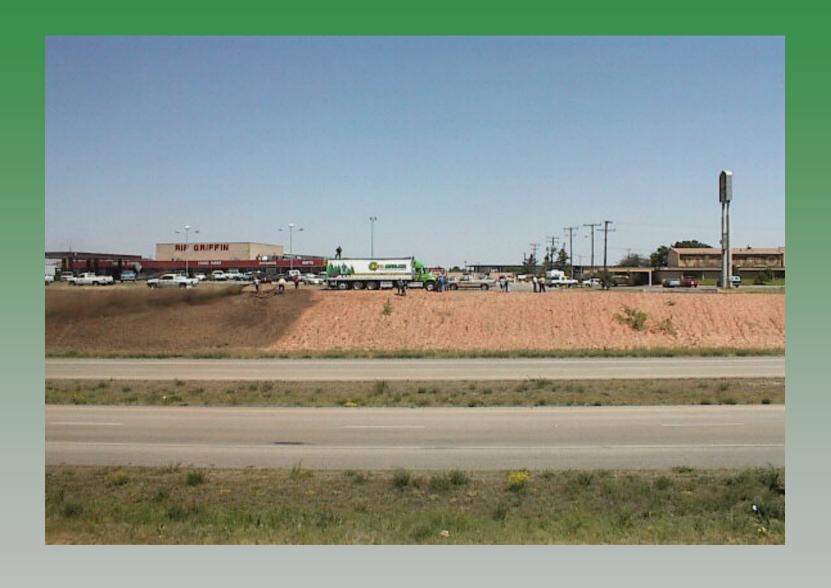




Big Spring/IH 20 Demonstration May 1999



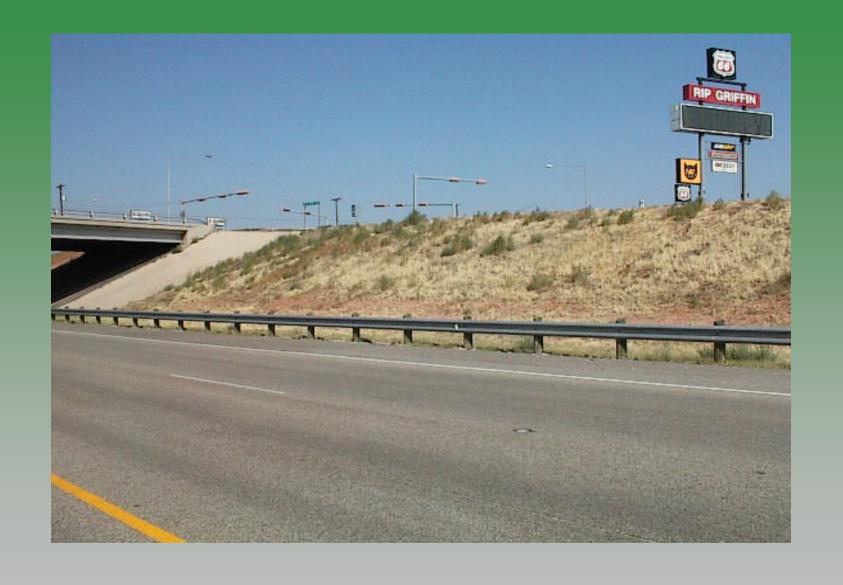
Big Spring/IH 20 Demonstration May 1999



Big Spring/IH 20 Demonstration May 1999



Big Spring/IH 20 Demonstration July 1999



Big Spring/IH 20 Demonstration July 1999





Dallas/Spur 408 Demonstration August 1999



Dallas/Spur 408 Demonstration May 2000

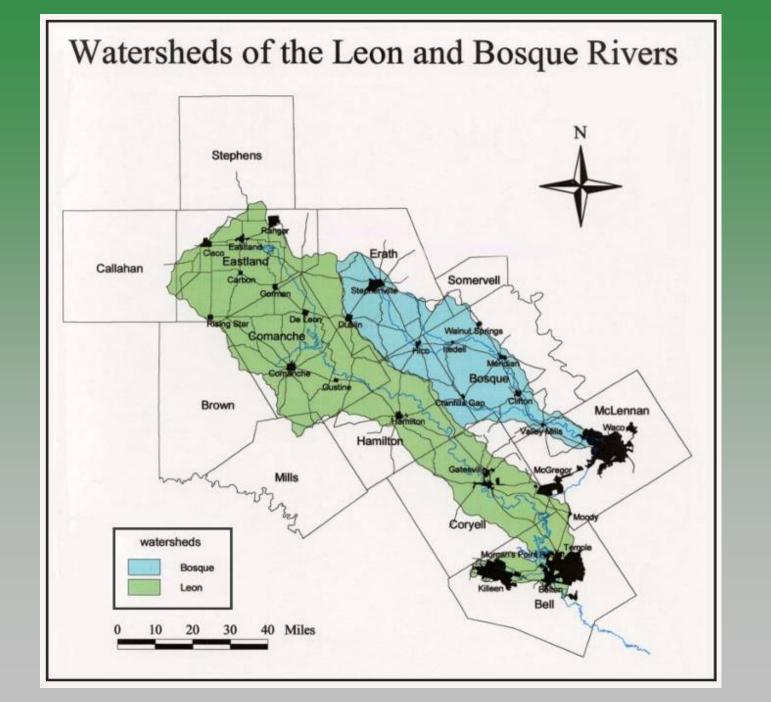
Due to the Success at the **Dallas Demonstration USEPA Awarded TCEQ and TxDOT** the Largest Clean Water NPS 319 Grant



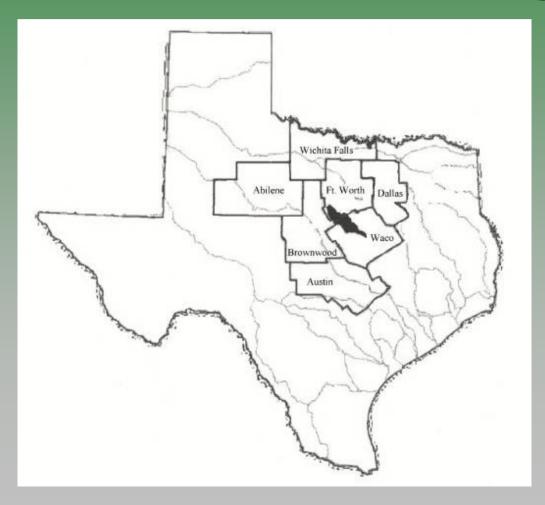


Erath County Dairy Operation





TxDOT Compost Incentive Program

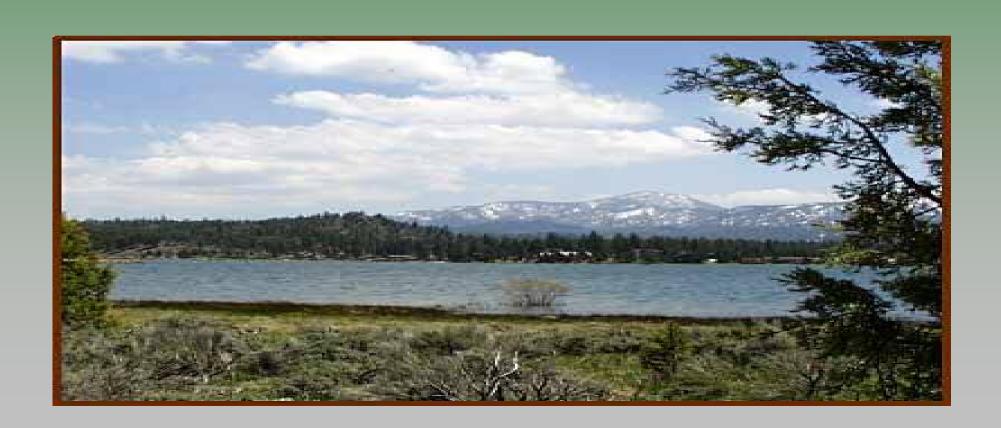


Stormwater Best Management Practices Using **Erosion Control Compost,** Compost/Mulch Filter Berms and Filter Tubes

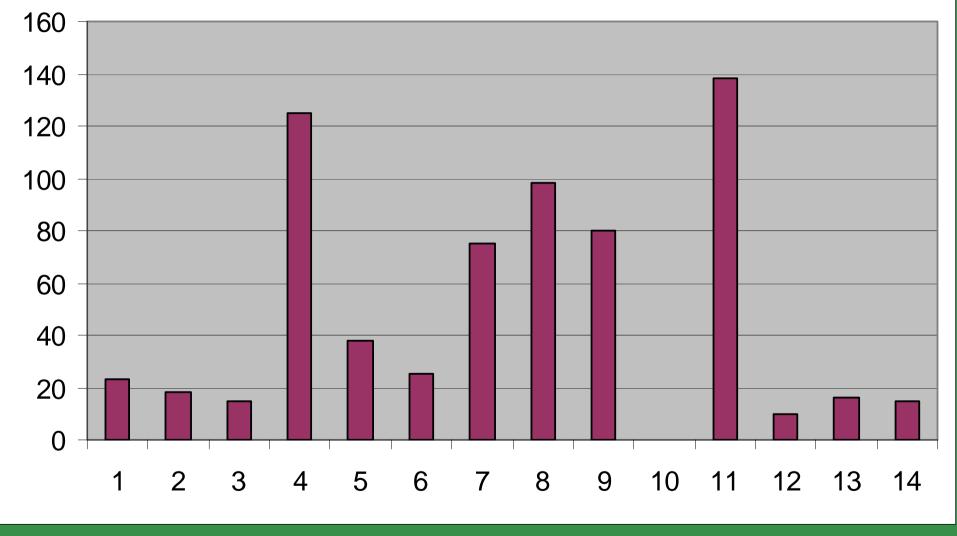
How Bad Can It Get???



Texas will lose 500,000 ac ft of water storage by 2050. That's 7x the size of Big Bear Lake or over half of Diamond Valley Lake



■ Rainfall Runoff (I)



Compost Blanket

control

Bark Mulch Blanket

silit rence

Hay Bale berm Compost ilter berm

control

Ground Mulch Blanket

State Specification 161: "Compost/Mulch Filter Berm" Special Specification 5083 "Filter Socks/Tubes"

- Compost Filter Berm/Vegetated
- Mulch Filter Berm

Special Specification 5083
Socks and or Tubes









Filter berm working during a rain event









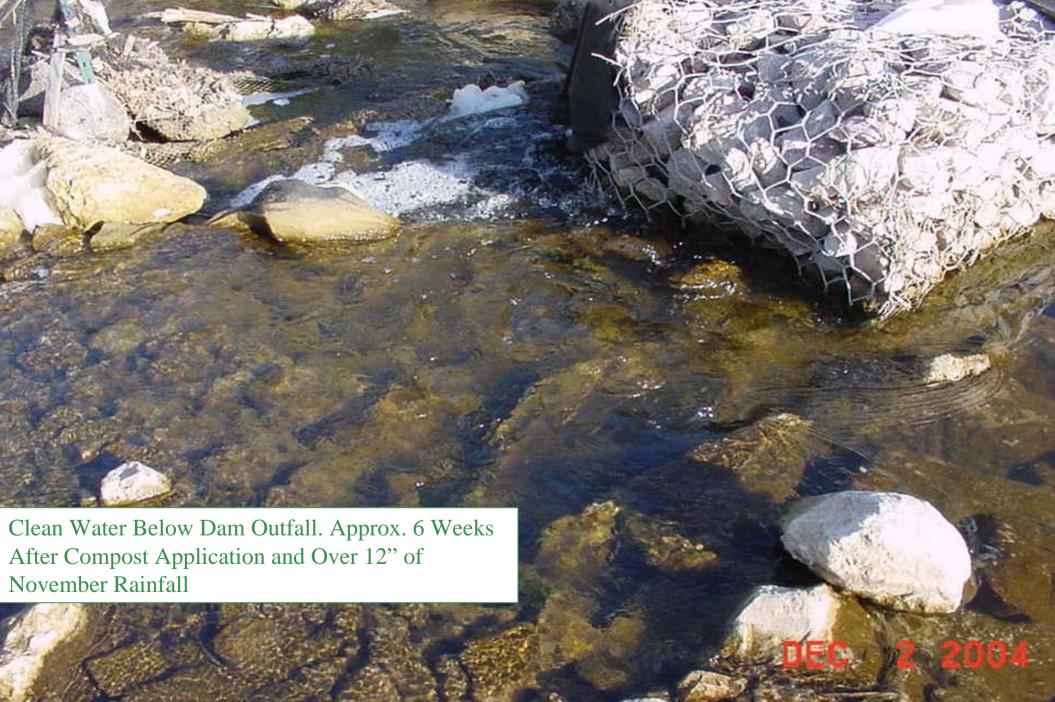


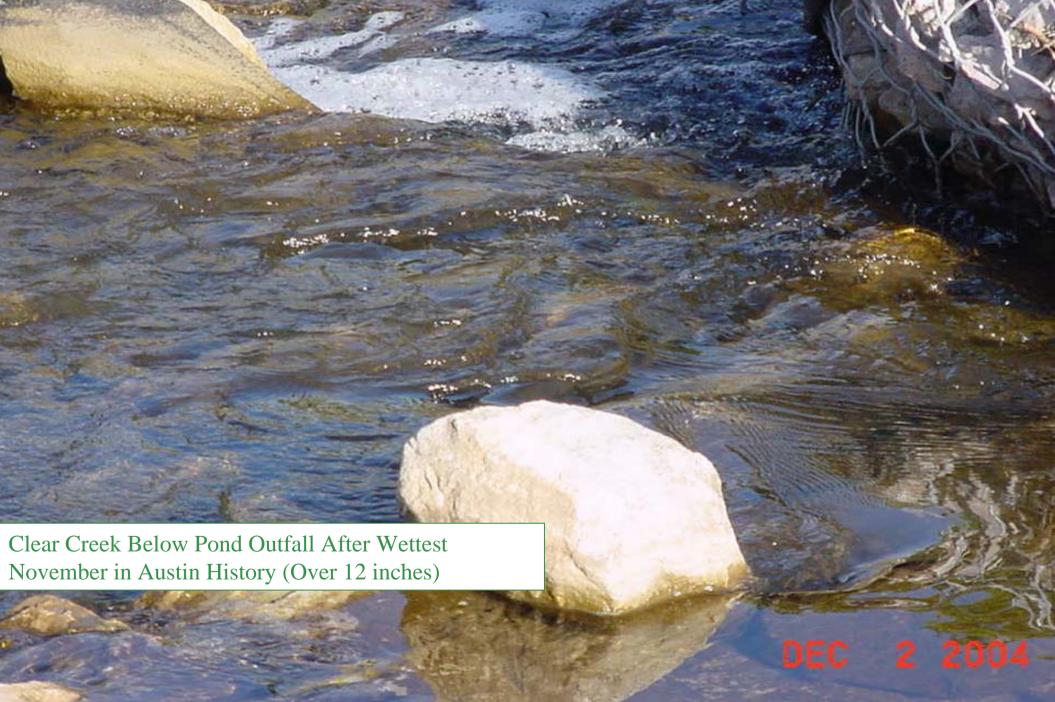












Don't be afraid to try something new.





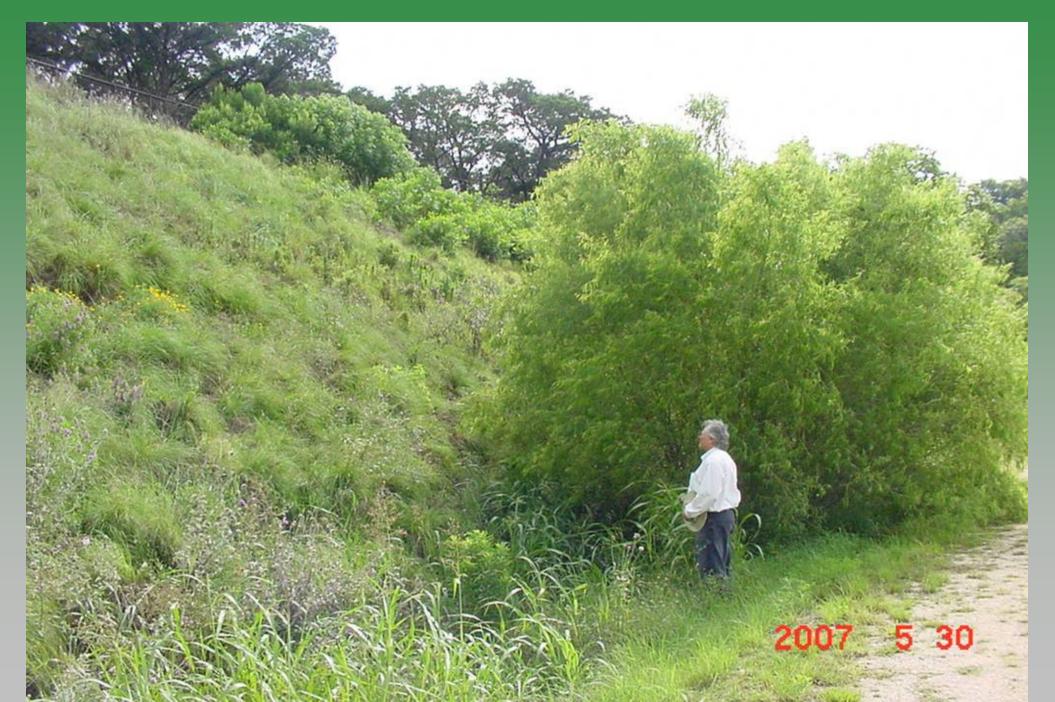














TXDOT COMPOST USE

• 2001	91,934
• 2002	266,654
• 2003	433,843
• 2004	355,967
• 2005	368,458
• 2006	453,119
• 2007To Date	325,000
• TOTAL	2,294,995 Cubic Yards

WHAT DOES THIS MEAN TO THE COMPOST INDUSTRY?

- AVERAGE COST PER CUBIC YARD APPLIED
- \$49.82
- TOTAL USED BY TX DOT: 2,294,995 Cubic Yards
- TOTAL DOLLARS TO THE TEXAS ECONOMY: \$114,336,650.90

Summary



- Solves high-priority environmental challenges
- Provides self-sustaining market solutions
- Builds public/private and interagency partnership

A Special Thanks to the Texas Department of Transportation



Barrie Cogburn
Landscape Architect
TxDOT Design Division

